

REMARKS

Claims 2 and 6 have been cancelled without prejudice or disclaimer. Claims 1 and 5 have been amended to include the subject matter of cancelled claims 2 and 6. In addition, minor amendments have been made to claims 1 and 5 to further clarify the present invention. Support for the minor amendments can be found at page 7 of the specification of the present invention. No new matter has been added.

Claims 1, 3-5 and 7-8 are currently pending and under consideration. Reconsideration is respectfully requested.

Claim Rejections Under 35 USC §103

At page 3 of the Office Action, claims 1, 2, 5 and 6 were rejected under 35 U.S.C. 103(a) as being unpatentable over Ouchi (U.S. Patent No. 5,867,213) in view of Hata (U.S. Patent No. 6,721,006). Further, at page 4 of the Office Action, claims 3 and 7 were rejected under 35 U.S.C. 103(a) as being unpatentable over Ouchi in view of Hata and further in view of Shiga (U.S. Patent Publication No. 2005/0062874). In addition, at page 5 of the Office Action, claims 4 and 8 were rejected under 35 U.S.C. 103(a) as being unpatentable over Ouchi in view of Hata and further in view of Nagata (U.S. Patent No. 6,366,228). The foregoing rejections are respectfully traversed.

Regarding the 103(a) rejections of claims 1, 2, 5 and 6:

As mentioned above, claims 2 and 6 have been cancelled without prejudice or disclaimer.

Claim 1 has been amended to recite:

“An image signal processing system comprising:
an image sensor for receiving an image of a subject in a light form under the control of a shutter control signal to generate analog signals;
a variable gain amplifier for variably amplifying output signals of the image sensor under the control of a gain control signal to maximize dispersion of the analog signals;
a first A/D converter for receiving the output signals of the variable gain amplifier and converting the received output signals into digital signals;
a second A/D converter for receiving the output signals of the image sensor and converting the received output signals into the digital signals; and
an image data processor for receiving the output signals of the first A/D converter and the output signals of the second A/D converter to find a movement value, generating the gain control signal and the shutter control signal, and providing the generated shutter control signal to the image sensor,

wherein *the shutter control signal is generated by using the output signals of the second A/D converter.*”

Claim 5 has been amended to recite features somewhat similar to those recited in amended claim 1.

At page 3 of the Office Action, the Examiner admits that Ouchi fails to teach the Applicant’s “variable gain amplifier” as recited in claims 1 and 5. However, the Examiner asserts that Hata makes up for the deficiency of Ouchi. The Applicants respectfully disagree with the Examiner. The Applicant respectfully submits that the combination of Ouchi and Hata fails to disclose “an image signal processing system comprising:...**a variable gain amplifier** for variably amplifying output signals of the image sensor under the control of a gain control signal to maximize dispersion of the analog signals; a **first A/D converter** for receiving the output signals of the variable gain amplifier and converting the received output signals into digital signals; a **second A/D converter** for receiving the output signals of the image sensor and converting the received output signals into the digital signals; and **an image data processor** for receiving the output signals of the first A/D converter and the output signals of the second A/D converter to find a movement value, generating the gain control signal and the shutter control signal, and providing the generated shutter control signal to the image sensor, wherein **the shutter control signal is generated by using the output signals of the second A/D converter,**” as recited in claim 1, for example.

In contrast, Ouchi disclose an image pickup apparatus having a vibration sensor for detecting vibrations of the apparatus, an optical image-shake correcting device for correcting an image shake according to an output of the vibration sensor (see Abstract). As shown in FIG. 1, the image pickup optical system includes a high-pass filter (HPF) 4, a first A/D converter 5, a second A/D converter 6 and a microcomputer 7 (see column 3, lines 27-36, for example). The high-pass filter (HPF) 4 is arranged to extract only a high frequency component included in the video signal outputted from the image sensor 2, and the first A/d converter 5 is arranged to convert an analog signal outputted from the encoder into a digital sensor while the second A/D converter is arranged to convert an analog signal outputted from the HPF 4 into a digital signal. The Applicant respectfully submits that the microcomputer 7 fails to disclose “generating ...the shutter control signal, and providing the generated shutter control signal to the image sensor...wherein the shutter control signal is generated by using the output signals of the second

A/D converter,” as recited in claim 1, for example. In contrast, the microcomputer 7 of Ouchi is provided to select either an optical image-shake correcting means or an electronic image-shake correcting means according to the focal length of the image pickup optical system and the value of the high frequency component included in the video signal.

Hata discloses a digital camera whereby a CPU measures a cycle of a vertical synchronization signal inputted from an image pre-processor (IPP) based on an oscillation frequency of an internal ceramic oscillator. The CPU corrects the timing of starting the control of an object to be controlled based on the measured cycle of the vertical synchronization signal when the timing of starting the control of the object to be controlled is to be decided based on the vertical synchronization signal as a reference (see Abstract). Fig. 1 of Hata discloses a digital camera 100 which includes, for example, a charge-coupled device (CCD) 103, a variable gain (AGC) amplifier 105, an A/D converter 106 and IPP 107, a discrete cosine transform 108, a coder 109, a memory card controller 110, a DRAM 111, a PC card interface 112, a CPU 121 and a display section 122 (see column 2, lines 26-41). The Applicants respectfully submit that although Hata discloses a variable gain amplifier, Hata fails to make up for the deficiencies of Ouchi mentioned above. Specifically, the Applicants respectfully submit that Hata fails to disclose “***the shutter control signal is generated by using the output signals of the second A/D converter***” as recited in claim 1. That is, the CPU 121 of Hata fails to output a shutter control signal to CCD 103 based on outputted signals from a second A/D converter.

The Applicants respectfully submit that there is no motivation to combine Ouchi and Hata. Further, even if the combination of these references was proper, the A/D converter 21 of Ouchi does not output any signals to the microcomputer 7, therefore, the microcomputer 7 cannot output a shutter control signal based on outputted signals from the A/D converter 21. In addition, the microcomputer 7 of Ouchi does not output any signals to the image sensor 2.

Further, the Applicants respectfully submit that the combination of Ouchi and Hata fails to establish a *prima facie* case of obviousness over the present invention. To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or discuss all the claim limitations. The teaching or suggestion to

make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). See M.P.E.P. § 2142.

Regarding claims 3, 4, 7 and 8:

Claims 3, 4, 7 and 8 respectively depend from independent claims 1 and 5. Therefore, the comments mentioned above may also be applied to the rejection of these claims.

In addition, at page 4 of the Office Action, the Examiner admits that neither Ouchi nor Hata disclose “the variable gain amplifier is a sample-and-hold amplifier architecture,” as recited in claims 3 and 7 and “the second A/D converter is configured of a plurality of analog comparators,” as recited in claims 4 and 8. Although Shiga discloses a hold/gain control circuit (see FIG. 1) and Nagata discloses “a plurality of comparators” (see Fig. 8), these references fail to make up for the deficiencies of Ouchi and Hata mentioned above.

Therefore, withdrawal of the 103(a) rejections is respectfully requested.

Conclusion

It is believed that the foregoing amendments and remarks fully comply with the Office Action and that the claims herein should now be allowable to Applicants. Accordingly, reconsideration and allowance is requested. It is submitted that the foregoing amendments and remarks should render the case in condition for allowance.

Accordingly, as the cited references neither anticipate nor render obvious that which the applicant deems to be the invention, it is respectfully requested that claims 1, 3-5 and 7-8 be passed to issue.

If there are any additional charges with respect to this Amendment or otherwise, please charge them to Deposit Account No. 06-1130.

Respectfully submitted,

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